

**APPARATUS AND METHOD FOR CREATING, MAINTAINING,
AND CONTROLLING A VIRTUAL ELECTRODE USED FOR THE
ABLATION OF TISSUE**

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Abstract

The present invention provides an apparatus and a method for producing a virtual electrode within or upon a tissue to be treated with radio frequency alternating electric current, such tissues including but not limited to liver, lung, cardiac, prostate, breast, and vascular tissues and neoplasms. An apparatus in accord with the present invention includes a supply of a conductive or electrolytic fluid to be provided to the patient, an alternating current generator, and a processor for creating, maintaining, and controlling the ablation process by the interstitial or surficial delivery of the fluid to a tissue and the delivery of electric power to the tissue via the virtual electrode. A method in accord with the present invention includes delivering a conductive fluid to a predetermined tissue ablation site for a predetermined time period, applying a predetermined power level of radio frequency current to the tissue, monitoring at least one of several parameters, and adjusting either the applied power and/or the fluid flow in response to the measured parameters.

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